Advanced Mobility Research Center
[Designing the Next Generation Transport Systems]

Intelligent Transport Systems

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ITS Center hosts an international symposium every year and exchanges faculty members and students with other universities and institutes through international collaboration as well as domestic collaboration.

ITS Seminar: Series of seminars organized about three times a year, and ITS based on needs from local areas as well as central administration promoted
Lectures: Not only lectures for students but also a special course for private sectors organized for developing human resource in ITS industry
Research Committee: Informal discussions about latest ITS topics hosted every month inviting speakers from academia, industry, and government

Global Collaboration

History
2003.4 "Sustainable ITS", a cooperative project among academia, industry, and the government, started in GOR
2005.3 "Collaborative Research Center for Advanced Mobility (ITS Center)" established in IIS (Director: Prof. Dr. Ikeuchi)
2009.4 "Upgraded to "Advanced Mobility Research Center (ITS Center)" an university-authorized research中心 (Director: Prof. Dr. Kuwahara)
2014.4 "Advanced Mobility Research Center (ITS Center)" (Director: Prof. Dr. Suda)
2018.4 "Advanced Mobility Research Center (ITS Center)" (Director: Prof. Dr. Suda)

Research and Developments on ITS

Various Traffic Simulation Models (TS)
Traffic simulators (TS) of various scales developed, to evaluate political options with high accuracy

SOUND: A network traffic simulator, covering a wide network including expressways, while vehicles are considered individually
AVENUE: A street-level traffic simulator, based on the detailed maneuvers of individual vehicles, such as lane changing at an intersection. Used for evaluating traffic operation strategies, reducing congestion on streets, etc.
KAKUMO: A micro traffic simulator, connecting TS and DS. It fills the gap of spatiotemporal resolution between TS and DS by calculating driver’s behavior and vehicle dynamics of hundreds of vehicles around the test driver in DS. Simultaneously, the behavior of the test driver in DS is reflected to TS, and then the movements of surrounding vehicles and the traffic condition change interactively.

Sensing
Sensing vehicles are developed for collecting various real-world data while running on the field. MAESTRO II can measure location, speed, acceleration, and direction of the experimental vehicle itself with relative positioning of the following vehicle, which is applied for analyzing behaviors of vehicles and drivers under various traffic conditions.

Societal implementation of automated driving
Automated Driving emerging scenario proposal and the Impact Analysis

ITS R&R Experiment Field
Experiment fields for automobiles and trains and a driving simulator for large vehicle.

Kashiwa ITS Smart City
ITS research activities launched for environment-friendly transport society in Kashiwa City, which is designated as one of the ITS FOT model cities by the Cabinet Office of Japan

Kashiwa ITS FOT Model City
Field test of automated driving bus

Next-Generation Infrastructure

Autonomous Traffic Signal System
Comparative study of far/near side signal

Technological studies on automated driving
Driving test of automated driving bus

Human Resource Development and Social Return Activities

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